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CHRISTIE, PARKER & HALE, LLP			KOENIG, ANDREW Y	
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2611

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/715,944

Applicant(s)

KATCHER ET AL.

Examiner

Andrew Y. Koenig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15,17,18,20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15,17,18,20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/20/05.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-15, 17, 18, 20-21 have been considered but are moot in view of the new ground(s) of rejection.

The examiner is withdrawing previously indicated as allowable subject matter upon further search and consideration. The examiner apologizes to any inconvenience to the applicant.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,282,713 to Kitsukawa et al. (Kitsukawa) in view of U.S. Patent 6,615,408 to Kaiser et al. (Kaiser) and U.S. Patent 6,317,774 to Jones et al. (Jones).

Regarding claim 1, Kitsukawa teaches a tuner (fig. 3, label 21), a QPSK demodulator in communication with said tuner (fig. 3, label 22, col. 5, ll. 18-28), a video decoder in communication with said demodulator (fig. 3, label 25), a display device in communication with said demodulator (fig. 2, label 4, col. 5, ll. 29-55), an SRAM memory for storing annotation data (fig. 3, label 36, col. 6, ll. 5-13), a CPU (fig. 3, label 29) in communication with said demodulator. Kitsukawa teaches storing a computer

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program that controls when executed by said central processing unit, a display of said annotation data on said display device (col. 5, ll. 56-65). Kitsukawa teaches the use of SRAM (36), ROM (37), EEPROM (38), and SRAM (51, 52), which equates to the claimed memory. Kitsukawa teaches advertising icons which are clearly stored in a first data store for storing object information (col. 8-9, ll. 58-11).

Kitsukawa is silent on mask information in a data store. Kaiser teaches a placement zone that has a visual highlight of an image referencing a product (col. 10, ll. 4-8, col. 10, 22-30), which is mask information that is clearly stored in at least some memory in order to perform pre-processing and enable display of the mask. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by storing mask information in a data store, which is used by the computer program to identify regions on said display device as taught by Kaiser in order to permit interactive product behavior in a cost effective manner (Kaiser: col. 2, ll. 23-32).

Kitsukawa teaches a SRAM containing advertisement and coupon information (col. 6, ll. 5-18), but Kitsukawa and Kaiser are silent on the use of threads, consequently, Kitsukawa and Kaiser are silent threads capable of adjusting a behavior of mask data and a second thread capable of adjusting behavior of object data. Jones teaches a thread scheduler for execution of real-time and non-real-time tasks (col. 4, ll. 27-57), wherein the scheduler can be implemented in a set top box (col. 6, ll. 37-41), wherein the thread of Jones is inherently capable of adjusting a behavior of mask data and a second thread capable of adjusting behavior of object data, in that a thread is

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capable of any processing task performed by the processor. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa and Kaiser by using threads capable of adjusting a behavior of mask data and a second thread capable of adjusting behavior of object data as taught by Jones in order to process plural tasks simultaneously in a real time environment thereby increasing the efficiency of the system in addition to effectively schedule non-real-time programs in the complete absence of real-time program, reservations and constraints (Jones: col. 2, ll. 47-50).

Regarding claim 2, Kitsukawa teaches an integrated receiver/decoder (IRD), which equates to a viewer interaction device (fig. 2 and 3, label 2; col. 5, ll. 1-28), wherein Kitsukawa teaches the user selecting an advertisement mode, wherein the annotation data is displayed to the viewer (col. 6-7, ll. 65-21), which equates to displaying annotation data on said display device in response to a viewer activating said viewer activating said viewer interaction device (fig. 5-11).

Regarding claim 3, Kitsukawa teaches selection of the advertisements (col. 8, ll. 17-57), but Kitsukawa is silent on teaches a memory for storing mask information, which is used by the computer program to identify regions on said display device. Kaiser teaches a placement zone that has a visual highlight of an image referencing a product (col. 10, ll. 4-8, col. 10, 22-30), which equates to mask information, which is used to identify regions on the display device. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by storing mask information, which is used by the computer program to identify regions on

said display device as taught by Kaiser in order to permit interactive product behavior in a cost effective manner (Kaiser: col. 2, ll. 23-32).

Regarding claim 6, Kitsukawa teaches storing object information to display objects in a video frame on the display (fig. 4, col. 6, ll. 51-60).

Regarding claim 9, Kitsukawa teaches using a list of pointers (claimed object mapping table) for the addresses of advertising and coupon information, which equates to an object mapping table, wherein upon accessing the advertising and coupon information by the addresses in the table, the CPU can retrieve the data from the data buffer (51), which equates to an object property table referenced by said first identifiers (list of pointers), and said object property data including a first set of annotation data.

4. Claims 4, 5, 7, 8, 15, 17, 18, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,282,713 to Kitsukawa et al. (Kitsukawa), U.S. Patent 6,615,408 to Kaiser et al. (Kaiser), and U.S. Patent 6,317,774 to Jones et al. (Jones) in view of U.S. Patent 6,415,438 to Blackketter et al. (Blackketter).

Regarding claim 4, Kitsukawa is silent on the mask information comprising a time stamp. Kaiser teaches tracking an image through multiple frames (col. 10, ll. 22-30), which has some form of timing information. Blackketter teaches inserting triggers with a time attribute (col. 4, ll. 64-67), such as a frame number (col. 6, ll. 16-22), which equates to a time stamp. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitamura and Kaiser by using

time information such as a frame number as taught by Blackketter in order to eliminate a delay loop (Blackketter: col. 2, ll. 59-61).

Regarding claim 5, the combination of Kitsukawa, Kaiser and Blackketter teaches a time stamp to display mask information in temporal relation to a video frame.

Regarding claim 7, Kitsukawa teaches storing timing data for the advertising information (col. 6, ll. 51-60), but is silent on a time stamp. Blackketter teaches inserting triggers with a time attribute (col. 4, ll. 64-67), such as a frame number (col. 6, ll. 16-22), which equates to a time stamp. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitamura and Kaiser by using time information such as a frame number as taught by Blackketter in order to eliminate a delay loop (Blackketter: col. 2, ll. 59-61).

Regarding claim 8, Kitsukawa and Kaiser are silent on indicating an expiration time. Blackketter teaches expiring triggers, which are indicative of the last instance the data structure is used (col. 3, ll. 13-22, col. 10, ll. 24-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser by indicating an expiration time in order to ignore invalid triggers (Blackketter: col. 10, ll. 24-35). Kitsukawa, Kaiser and Blackketter are silent on removing the data structures. Official Notice is taken that removing expired information is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kaiser and Blackketter by removing the data structures in order to conserve memory and efficiently manage the memory resources.

Regarding claim 15, Kitsukawa teaches an IRD (fig. 2, label 2), receive (fig. 3, label 21), decode (fig. 3, label 25), store (fig. 3, labels 36, 37, 38, 51, 52) and manipulate broadcast information by displaying advertisement information, central processor unit (fig. 3, label 29) and at least one memory devices, receiving a stream of broadcast information via the tuner; decoding said broadcast information to recover mask information (fig. 3, label 25). Kitsukawa is silent on mask information in a queue in said at least one memory devices. Kaiser teaches a placement zone that has a visual highlight of an image referencing a product (col. 10, ll. 4-8, col. 10, 22-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by storing mask information, which is used by the computer program to identify regions on said display device as taught by Kaiser in order to permit interactive product behavior in a cost effective manner (Kaiser: col. 2, ll. 23-32).

Kitsukawa is silent on the mask information comprising a time stamp. Kaiser teaches tracking an image through multiple frames (col. 10, ll. 22-30), which has some form of timing information. Blackketter teaches inserting triggers with a time attribute (col. 4, ll. 64-67), such as a frame number (col. 6, ll. 16-22), which equates to a time stamp.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitamura and Kaiser by using time information such as a frame number as taught by Blackketter in order to eliminate a delay loop (Blackketter: col. 2, ll. 59-61). Kitsukawa is silent on comparing the time stamp with a time stamp of a displayed video frame; and displaying said mask based on a relationship between said mask time stamp and said time stamp of said displayed video. Kaiser teaches

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comparing the time of display to the actual display and displaying the mask accordingly (col. 6-7, ll. 34-4, col. 10, ll. 20-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by comparing the time of display to the actual display and displaying the mask accordingly as taught by Kaiser in order to display information at the appropriate time while providing additional services and interactivity to the user.

Kitsukawa teaches storing object information to display objects in a video frame on the display (fig. 4, col. 6, ll. 51-60). Kitsukawa teaches storing timing data for the advertising information (col. 6, ll. 51-60), but is silent on a time stamp. Blacketter teaches inserting triggers with a time attribute (col. 4, ll. 64-67), such as a frame number (col. 6, ll. 16-22), which equates to a time stamp. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitamura and Kaiser by using time information such as a frame number as taught by Blacketter in order to eliminate a delay loop (Blacketter: col. 2, ll. 59-61). Kitsukawa, Kaiser and Blacketter are silent on the use of queues. Official Notice is taken that the use of queues is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa, Kaiser and Blacketter by using queues in order to properly process data in order, thereby conserving processing power to locate specific elements.

Kitsukawa teaches a SRAM containing advertisement and coupon information (col. 6, ll. 5-18), but Kitsukawa, Kaiser, and Blacketter are silent on the use of threads, consequently, Kitsukawa, Kaiser, and Blacketter are silent threads capable of adjusting

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a behavior of mask data and a second thread capable of adjusting behavior of object data. Jones teaches a thread scheduler for execution of real-time and non-real-time tasks (col. 4, ll. 27-57), wherein the scheduler can be implemented in a set top box (col. 6, ll. 37-41), wherein the thread of Jones is inherently capable of adjusting a behavior of mask data and a second thread capable of adjusting behavior of object data, in that a thread is capable of any processing task performed by the processor. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa, Kaiser, and Blackketter by using threads capable of adjusting a behavior of mask data and a second thread capable of adjusting behavior of object data as taught by Jones in order to process plural tasks simultaneously in a real time environment thereby increasing the efficiency of the system in addition to effectively schedule non-real-time programs in the complete absence of real-time program, reservations and constraints (Jones: col. 2, ll. 47-50).

Regarding claim 17, the combination of Kitsukawa, Kaiser, and Blackketter teaches mask information, which is decoded along with comparing the time information in order to display the information, but Kitsukawa, Kaiser, and Blackketter are silent on the assigning threads to perform specific tasks. Jones teaches a thread scheduler for execution of real-time and non-real-time tasks (col. 4, ll. 27-57), wherein the scheduler can be implemented in a set top box (col. 6, ll. 37-41), which teaches assigning by the scheduler different threads for performing tasks. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa, Kaiser, and Blackketter to assign threads to perform specific tasks as taught

by Jones in order to use a thread to decode information, along with a thread for comparing data for the benefit of increasing the efficiency of the system in addition to effectively schedule non-real-time programs in the complete absence of real-time program, reservations and constraints (Jones: col. 2, ll. 47-50).

Regarding claim 18, Kitsukawa is silent on comparing the time stamp with a time stamp of a displayed video frame; and displaying said mask based on a relationship between said mask time stamp and said time stamp of said displayed video. Kaiser teaches comparing the time of display to the actual display and displaying the mask accordingly (col. 6-7, ll. 34-4, col. 10, ll. 20-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by comparing the time of display to the actual display and displaying the mask accordingly as taught by Kaiser in order to display information at the appropriate time while providing additional services and interactivity to the user.

Regarding claim 20, Kitsukawa is silent on the use of masks. Kaiser teaches a placement zone that has a visual highlight of an image referencing a product (col. 10, ll. 4-8, col. 10, 22-30), which equates to mask information, which is used to identify regions on the display device. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by storing mask information, which is used by the computer program to identify regions on said display device as taught by Kaiser in order to permit interactive product behavior in a cost effective manner (Kaiser: col. 2, ll. 23-32). Kaiser clearly teaches decoding the mask

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into an image buffer, and displaying the program at the appropriate time. Logically, the mask would be displayed at the corresponding time, however, Kaiser is silent on sleeping for a time calculated to end at the time the mask is to be display. Official Notice is taken that determining the difference in time to perform an event is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa and Kaiser by determining the difference in time to perform an event in order to efficiently manage events thereby reducing the processing of the system by selectively querying the system clock.

Regarding claim 21, Kitsukawa teaches receiving advertising and coupon information, which is received from the broadcast transmitter (col. 6, ll. 5-18, col. 5, ll. 18-28), which equates to transmitting information in conjunction with a video signal for display in a temporal relation with the video signal. Kitsukawa is silent on the timing mechanism used to display the information and encoding mask information. Kaiser teaches a placement zone that has a visual highlight of an image referencing a product (col. 10, ll. 4-8, col. 10, 22-30), which equates to mask information, which is used to identify regions on the display device. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa by encoding mask information as taught by Kaiser in order to permit interactive product behavior in a cost effective manner (Kaiser: col. 2, ll. 23-32). Blacketter teaches inserting triggers with a time attribute (col. 4, ll. 64-67), such as a frame number (col. 6, ll. 16-22), which equates to a time stamp. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitamura and

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Kaiser by using time information such as a frame number as taught by Blackketter in order to eliminate a delay loop (Blackketter: col. 2, ll. 59-61).

Kitsukawa teaches encoding object information (col. 6, ll. 5-18) associated with the products and transmitting the objects with the video signal for display in a temporal relation with the video signal. Kitsukawa is silent on an object time stamp. Blackketter teaches inserting triggers with a time attribute (col. 4, ll. 64-67), such as a frame number (col. 6, ll. 16-22), which equates to a time stamp. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitamura and Kaiser by using time information such as a frame number as taught by Blackketter in order to eliminate a delay loop (Blackketter: col. 2, ll. 59-61).

Kitsukawa teaches a SRAM containing advertisement and coupon information (col. 6, ll. 5-18), but Kitsukawa, Kaiser, and Blackketter are silent on the use of threads, consequently, Kitsukawa, Kaiser, and Blackketter are silent threads capable of adjusting a behavior of mask data and a second thread capable of adjusting behavior of object data. Jones teaches a thread scheduler for execution of real-time and non-real-time tasks (col. 4, ll. 27-57), wherein the scheduler can be implemented in a set top box (col. 6, ll. 37-41), wherein the thread of Jones is inherently capable of adjusting a behavior of mask data and a second thread capable of adjusting behavior of object data, in that a thread is capable of any processing task performed by the processor. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa, Kaiser, and Blackketter by using threads capable of adjusting a behavior of mask data and a second thread capable of adjusting behavior of

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object data as taught by Jones in order to process plural tasks simultaneously in a real time environment thereby increasing the efficiency of the system in addition to effectively schedule non-real-time programs in the complete absence of real-time program, reservations and constraints (Jones: col. 2, ll. 47-50).

5. Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,282,713 to Kitsukawa et al. (Kitsukawa), U.S. Patent 6,615,408 to Kaiser et al. (Kaiser), and U.S. Patent 6,317,774 to Jones et al. (Jones) in view of U.S. Patent 5,889,746 to Moriyama et al.

Regarding claim 10 and 11, Kitsukawa and Kaiser are silent on the annotation data field is a title data field and the third data structure element is a string including the title of the object. Moriyama teaches a pointer to a text string wherein the text string can be the title (col. 15-16, ll. 65-31; see also fig. 9). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa and Kaiser by pointing to a string including the title as taught by Moriyama in order to efficiently manage variable length fields and manage the memory of the system.

Regarding claim 12, Kitsukawa teaches menus with display identifiers and actions associated with the display identifiers (fig. 5, col.17-57). However, Kitsukawa is silent on an annotation data menu field and the second identifier referencing a selector including a set of display identifiers and corresponding actions. Moriyama teaches identifying elements via pointers, as shown in figure 9. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify

Kitsukawa and Kaiser by identifying a display identifiers and actions via pointers as taught by Moriyama in order to efficiently manage dynamic resources.

Regarding claim 13, Kitsukawa and Kaiser are silent on never duplicating the first and second identifiers. Official Notice is taken that never duplicating identifiers is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa and Kaiser by never duplicating identifiers in order to appropriately reference the appropriate information thereby eliminating access to the incorrect data structure.

Regarding claim 14, Kitsukawa and Kaiser are silent on a variable value. Official Notice is taken that a variable values are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitsukawa and Kaiser by using variable values in order to efficiently manage the memory by dynamically referencing and allocating the memory.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Y. Koenig whose telephone number is (703) 306-0399. The examiner can normally be reached on M-Th (7:30 - 6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (703) 305-4755. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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CHRIS GRANT
PRIMARY EXAMINER